Lopez Lake
Boat Launching Facility

$83,000 Phase I Grant
(Total Grant Amount $763,100)

SUMMARY


Marina/Cottonwood Cove Facility

San Luis Obispo County has applied to the Department of Boating and Waterways for a grant of $763,100 to make improvements to the Lopez Lake Boat Launching Facilities (BLF's). This report concerns phase I funding of $83,000 for planning and engineering for this project.

Lopez Lake is located approximately 10 miles east of the City of Arroyo Grande, and 30 miles south of the City of San Luis Obispo. The two boat launching facilities, the Marina/Cottonwood Cove BLF and the Mallard Cove BLF, are located on the east side of the lake.

The Boating and Waterways Commission has previously consented to a grant of $462,000 to San Luis Obispo County for the Lopez Lake BLF's.

The boat launching facilities, originally constructed in 1969 by San Luis Obispo County, consist of a four-lane boat launching ramp and 2 two-lane boat launching ramps, nine boarding floats, a 85 vehicle/trailer space parking area and a 20 vehicle/trailer space parking area, two restrooms, and two fish-cleaning stations.


"F" - Dock at Marina/Cottonwood Cove Facility

The proposed project entails the following at the Marina/ Cottonwood Cove facility: (1) removal of the existing boarding floats and courtesy "F"- dock, (2) installation of new boarding floats, (3) installation of a new courtesy "F"- dock, (4) resurfacing of the parking area, (5) resurfacing of the marina road, and (6) installation of two new fish-cleaning stations.

The benefit/cost ratio must be greater than unity (1.00) before public investment in a project is justified. This project is considered economically feasible with a benefit/cost ratio of 3.88.

INTRODUCTION

Grant Applicant

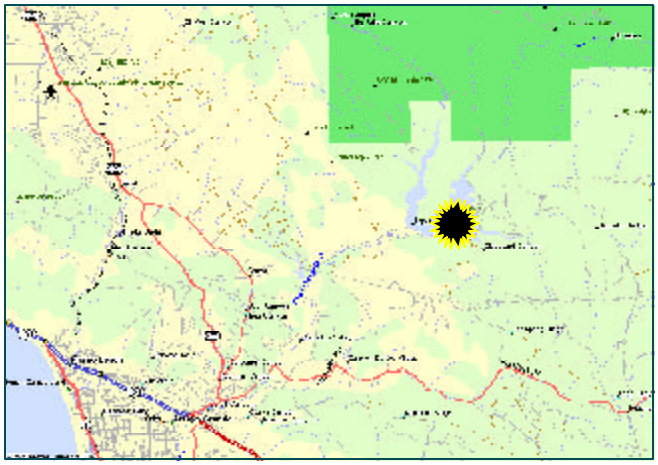
The grant applicant for this project is San Luis Obispo County.

Project Identification

The proposed project will include improvements to the Lopez Lake Boat Launching Facilities (BLF's). The Marina/Cottonwood Cove facility consists of a four-lane boat launching ramp, two boarding floats, a courtesy "F"- dock, paved parking for 85 vehicle trailers and 122 single cars, a restroom, a fish-cleaning station, a marina, boat rentals, and a swimming area in the Cottonwood Day Use area north of the launch facility. The Mallard Cove facility consists of 2 two-lane boat launching ramps, paved parking for 20 vehicle trailers and 80 single cars, a restroom, a fish-cleaning station, and a day use picnic area.

Project Location

Lopez Lake is located approximately 10 miles east of the City of Arroyo Grande, and 30 miles south of the City of San Luis Obispo. The boat launching facilites are located on the east side of the lake.



Access to Project

From Highway 101, go east on Highway 227 (Lopez Drive). Travel on Lopez Drive 10 miles to its termination at the Lopez Lake Regional Park.

Area Description

Lopez Lake Regional Park consists of 4,276 acres of recreation and open space land owned by San Luis Obispo County and managed by San Luis Obispo County Parks Division. The lake surface is 974 acres with 22 miles of shoreline and a capacity of 50,000 acre feet.

The lake was created in 1969 to provide domestic water for the Five Cities Area of San Luis Obispo County, and since 1969 has been operated as a recreation area. Lopez Lake allows full body contact with the water, and is popular for boating, fishing, waterskiing, and wind sailing. The California Department of Fish and Game plants rainbow trout in the lake, and trout derbies are held at the lake in the fall and winter. In the warmer months, fishing for largemouth and smallmouth bass, red-ear sunfish and crappie is popular.

The nearest comparable fresh water boating facilities are located at Santa Margarita Lake, 40 miles to the north, and at Lake Nacimiento, 55 miles to the northwest.

Previous Commission Action

The Boating and Waterways Commission previously consented to the following grant(s) for the construction of and/or improvements to the Lopez Lake Boat Launching Facility:

In FY 1984/85, the Commission approved a grant for $165,000 for the addition of new boarding floats and lighting for the parking area and boat launching ramp for the Marina/Cottonwood Cove facility.

In FY 1984/85, the Commission approved a grant for $297,000 for construction of a parking area for 50 vehicle/trailers for the Mallard Cove facility.

ENGINEERING CONSIDERATIONS

At the time of application, each project is evaluated by a Department of Boating and Waterways (DBW) engineer. The DBW engineer reviews the application, checks/verifies estimated costs, and visits the project site. The DBW Planning Unit and the engineer then recommend the best proposed alternative. This project is being recommended because the facility is approximately 35 years old and in need of refurbishment.

Proposed Project

(1) removal of existing boarding floats and courtesy "F" - dock (so called as it is shaped like the letter "F"), (2) installation of two new 8' x 80' steel frame aluminum decked boarding floats at the Marina/Cottonwood Cove facility, (3) installation of a new 1500 sq. ft. courtesy "F"- dock at the Marina/Cottonwood Cove facility, (4) repaving/restriping of the 165,200 sq. ft. parking area at the Marina/Cottonwood Cove facility, (5) repaving/restriping of the marina entrance road, and (6) installation of two new fish-cleaning stations, one at the Marina/Cottonwood Cove facility, and one at the Mallard Cove facility.

Cost Estimate

PROJECT ITEM		*DBW*
Boarding Floats	$	94,100
F-Dock		147,000
Marina/Cottonwood Cove Parking Area		185,000
Marina Road		52,000
Fish-Cleaning Stations		30,000
SUBTOTAL	$	508,100
Escalation*		102,000
Contingency*		51,000
Engineering*		62,000
Inspection*		25,000
Permits*		15,000
TOTAL	$	763,100

*NOTE: Escalation is 20%; contingency is 10%; engineering is 12%; inspection is 5%; permits are 3% of construction subtotal. Engineering and inspection services completed by the grantee may not be reimbursed by DBW.

Conclusion

There are no particularly difficult or unusual problems associated with this project and it falls within the normal range of practice for design and construction of projects of this type. Therefore, the proposed project is considered feasible from an engineering standpoint at a total estimated cost of $763,100.

ECONOMIC ANALYSIS

Introduction

The economic justification of any proposed project rests upon a comparison of the benefits and costs attributable to the project. A benefit/cost analysis is performed to demonstrate whether the total cost of a project to society is justified by its overall benefit to society. A project is deemed beneficial and therefore economically feasible when total benefits equal or exceed total costs. A glossary with data sources follows this section.

TABLE 1A

ANNUAL BOAT LAUNCHES	17,000
AVERAGE PERSONS ABOARD	3.26
ANNUAL BASE YEAR USER DAYS	55,420

TABLE 1B

NUMBER IN MKT. AREA		ACTUAL 2004	PROJECTED 2024	
BOATS < 26' IN LENGTH	low	28,429	48,222	3.48%
	high	28,429	52,703	4.27%
ANNUAL GROWTH RATE				3.9%

The Benefit/Cost Process

Costs and Benefits, and user data are verified by comparison with data published in the 2002 California Boating Facilities Needs Assessment (BNA). BNA Volume V - Boating Economic Assessments and Facilities Demand Projections - summarizes the economic benefits of boating to California, the values of recreational boating in California, and the demand projections for boating and boating facilities derived from the 2001California Boats and Boaters Survey (BBS). This project is located in the Central Coast region (see Glossary/Data Sources, #11).

TABLE 2

	PROJECT USER DAYS	ANNUAL BENEFITS
		USER DAY VALUE $ 17.89
		CPI 3.4%
1	57,568	1,029,883
2	59,798	1,106,164
3	62,115	1,149,028
4	64,522	1,193,553
5	67,023	1,239,803
6	69,620	1,287,845
7	72,318	1,337,749
8	75,120	1,389,587
9	78,031	1,443,433
10	81,054	1,499,366
11	84,195	1,557,467
12	87,458	1,617,819
13	90,847	1,680,509
14	94,367	1,745,629
15	98,024	1,813,272
16	101,822	1,883,536
17	105,768	1,956,523
18	109,866	2,032,339
19	114,124	2,111,092
20	118,546	2,192,897

TABLE 3

BOAT LAUNCHING FEE		10.00	
ANNUAL LAUNCHES		17,000	
ANNUAL COST		$170,000	
ANNUAL COST ESCALATION		6.90%	
ANNUAL GROWTH RATE			3.90%
ANNUAL COSTS	1	$ 170,000	$ 176,630
	2	$ 181,730	$ 188,817
	3	$ 194,269	$ 201,846
	4	$ 207,674	$ 215,773
	5	$ 222,003	$ 230,662
	6	$ 237,322	$ 246,577
	7	$ 253,697	$ 263,591
	8	$ 271,202	$ 281,779
	9	$ 289,915	$ 301,222
	10	$ 309,919	$ 322,006
	11	$ 331,303	$ 344,224
	12	$ 354,163	$ 367,976
	13	$ 378,601	$ 393,366
	14	$ 404,724	$ 420,508
	15	$ 432,650	$ 449,523
	16	$ 462,503	$ 480,541
	17	$ 494,416	$ 513,698
	18	$ 528,530	$ 549,143
	19	$ 564,999	$ 587,034
	20	$ 603,984	$ 627,539

Project benefits per year and project operating costs per year are then discounted to yield their net present value. Since the value of a dollar is considered to be greater in the present year than in some future year, a discount rate is applied in order to de-inflate the future dollars and to convert the benefits and costs occurring over the 20-year grant period to a present day value. In this manner, the present day value may be comparable to other values in the present.

The sum of the present benefits and the discounted future benefits is the net present value of the project (Table 4). The sum of the present costs, including capital costs, and the discounted future costs is the net present cost of the project (Table 5).

The first step in the benefit/cost analysis is to determine annual benefits. Annual benefits are determined by calculating the annual base year user days (Table 1A) and the annual percentage growth rate (Table 1B). These two are multiplied to give the project user days per year. The project user days per year are multiplied by a user day value plus the expected annual percent increase in the Consumer Price Index to give annual benefits (Table 2).

Next, annual costs are determined by multiplying the existing or projected annual boat launches for the facility by the cost per boat launching and the expected annual percent cost escalation rate to give annual costs. If there is no charge for boat launching at the facility, a standard cost is substituted in the equation (Table 3).

TABLE 4

	BENEFITS	NET PRESENT VALUE	
Year	Benefits	Discount Rate	Benefits
0	$1,029,883	1.00	$1,029,880
1	$1,106,164	1.05	$1,058,530
2	$1,149,028	1.09	$1,052,200
3	$1,193,553	1.14	$1,045,910
4	$1,239,803	1.19	$1,039,650
5	$1,287,845	1.25	$1,033,430
6	$1,337,749	1.30	$1,027,250
7	$1,389,587	1.36	$1,021,110
8	$1,443,433	1.42	$1,015,000
9	$1,499,366	1.49	$1,008,930
10	$1,557,467	1.55	$1,002,900
11	$1,617,819	1.62	$996,900
12	$1,680,509	1.70	$990,940
13	$1,745,629	1.77	$985,010
14	$1,813,272	1.85	$979,120
15	$1,883,536	1.94	$973,260
16	$1,956,523	2.02	$967,440
17	$2,032,339	2.11	$961,650
18	$2,111,092	2.21	$955,900
19	$2,192,897	2.31	$950,190
Total Net Present Value of Benefits:			$20,095,200

The discount rate being used is 4.50%. This is equivalent to the interest rate being charged by the Department of Boating and Waterways on its public loans. Present value is determined by dividing future benefits by $(1+r)^n$, where r is the discount rate and n is the number of years into the future.

The net present value of benefits is then divided by the net present value of costs to yield the benefit/cost ratio. The benefit/cost ratio must be greater than unity (1.00) before public investment in a project is justified (Table 6).

Annual Benefits

Annual base year user days for this project are 55,420. (Table 1A). The annual percentage growth rate is 3.9% (Table 1B). Annual benefits are shown in Table 2. The net present value of benefits is shown in Table 4.

Annual Costs

Annual costs are shown in Table 3. The net present value of costs is shown in Table 5.

Benefit/Cost Ratio

The benefit/cost ratio for this project is 3.88 (Table 6). This means that estimated benefits exceed estimated costs. The construction of this project is, therefore, is economically justified.

TABLE 5

	COSTS	NET PRESENT VALUE		
Year	Capital Costs		Discount Factor	Cost
0	$763,100	$176,630	1.000	939,730
1		$188,817	1.045	180,690
2		$201,846	1.092	184,840
3		$215,773	1.141	189,080
4		$230,662	1.193	193,420
5		$246,577	1.246	197,870
6		$263,591	1.302	202,410
7		$281,779	1.361	207,060
8		$301,222	1.422	211,810
9		$322,006	1.486	216,680
10		$344,224	1.553	221,660
11		$367,976	1.623	226,750
12		$393,366	1.696	231,950
13		$420,508	1.772	237,280
14		$449,523	1.852	242,730
15		$480,541	1.935	248,310
16		$513,698	2.022	254,010
17		$549,143	2.113	259,840
18		$587,034	2.208	265,810
19		$627,539	2.308	271,910
Total Present Value of Costs:				$5,183,840

The discount rate being used is 4.50%. This is equivalent to the interest rate being charged by the Department of Boating and Waterways on its public loans. Present value is determined by dividing future benefits by $(1+r)^n$, where r is the discount rate and n is the number of years into the future.

Financial Considerations

Projects are publicly funded from boaters tax dollars. After the project is funded, the grantee must maintain the facility for 20 years at no additional cost to the Department. The completed project will be open to all on an equal and reasonable basis**.** There is a $10.00 fee to launch a boat at the Lopez Lake Boat Launching Facilities.

RECOMMENDATION

In view of the foregoing demonstration of the project's engineering and financial feasibility, the Department of Boating and Waterways recommends that the Boating and Waterways Commission consent to the first phase grant funding of $83,000 to San Luis Obispo County for improvements to the Lopez Lake BLF's.

TABLE 6

NET PRESENT VALUE OF BENEFITS	$20,095,200
NET PRESENT VALUE OF COSTS	$5,183,840
BENEFIT/COST RATIO	3.88

Glossary/Data Sources

Much of the data below was derived from the 2002 California Boating Facilities Needs Assessment (BNA) - a comprehensive assessment of boats and boating facilities statewide.

1. Annual Base Year User Days - annual boat launches times average persons aboard a boat.

2. Annual Boat Launches - existing or projected yearly boat launches at a facility, estimated by the grantee, or from regional data from the BBS.

3. Average Persons Aboard a Boat - regional data from the BBS.

4. Annual Percentage Growth Rate - the average of the low and high boat usage (over the 20-year life expectancy of the project) derived from boat forecasts regional data for boats less than 26 foot in length.

5. Boat Forecasts Regional Data - boat ownership in California by region and boat length through 2020. Data sources include DMV Year-End Boat Registration Report; DMV Boat Registration Data Tapes; California Department of Finance, County Population Estimates for January 1; California Department of Finance, Interim County Population Projections; US MARAD, Merchant Vessels of the U.S.

6. User Day Value - the measure of the value of one day of recreation to the user. For the purposes of this analysis, it is the value of recreation provided by publicly accessible waterways and boating facilities within California. The user day value was determined by using a technique known as the travel cost method. The travel cost method assumes that an individual's willingness to pay time and travel expenses for a recreational outing can be estimated based on the number of trips that they make at different travel costs. These costs can then be used as a proxy to estimate the "price" of recreation.

The BBS estimated a travel cost per day for recreational boating in California, which was then divided by the average number of persons aboard a boat on an average boating trip. This yielded an average travel cost per person per day of boating of $17.89. This is the user day value used in this benefit/cost analysis.

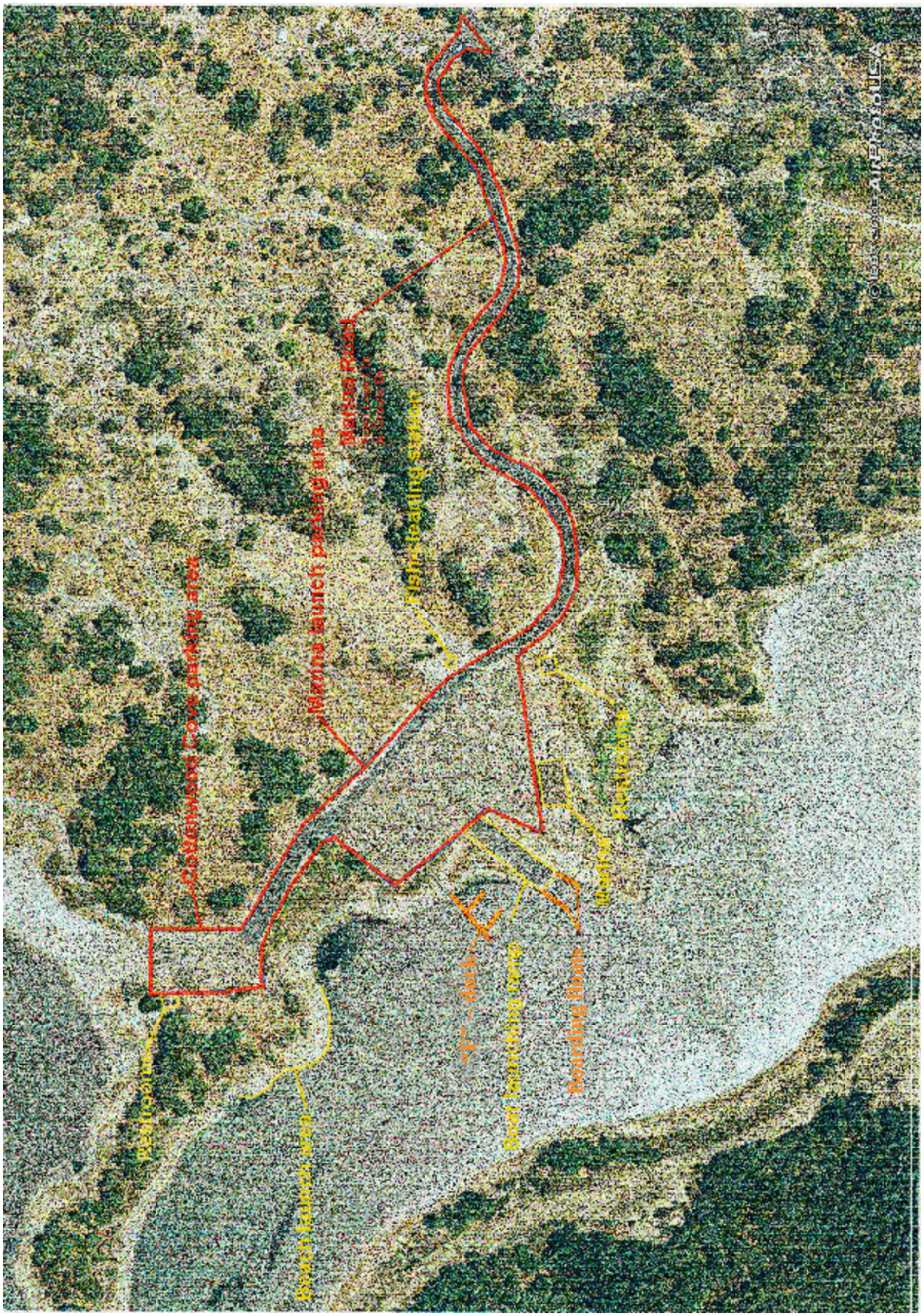
7. Consumer Price Index - monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services.

8. Boat launching fees - existing or projected fees for boat launching from grantee.

9. Annual Percentage Cost Escalation Rate- the annual percent increase in the 20-city average of the construction cost index.

10. Standard cost - The cost to be used in the calculation of annual costs when the boat launching facility does not charge a fee. This cost ($5.23) is derived from a DBW Fee Survey completed in August 2001, and is increased by the Consumer Price Index annually.

11. Regional Data - In the BNA, California is divided into ten regions: North Coast, San Francisco, Central Coast, South Coast, San Diego, Northern Interior, Sacramento Basin, Central Valley, Eastern Sierra, and Southern Interior.


Cottonwood Cove parking area
Marina launch parking area
Marina Road
Fish cleaning station
Restrooms
Beach launch area
"T" – dock
Boat launching ramp
Boarding floats
Marina Restrooms


Mallard Cove Launch
North and South Parking Areas
Restrooms
Fish-cleaning station
Boat launching ramps
Water level low due to release
of water for construction.